

REMARKS

Posture

This is a reply to a second, final Office action and accompanies a Request for Continued Examination. All claims were rejected in the first Office action. Applicant responsive amended claims to overcome the rejection. In the present Office action, new art is presented.

Objections

The specification stands objected to as failing to provide proper antecedent basis for the claimed subject matter. Specifically, the Office action asserts that “tangible, computer readable medium” in claim 36 is not adequately defined in the specification, since tangible is not mentioned nor explicitly defined in the specification. The Office action cites 37 CFR 1.75(d)(1) and MPEP § 608.01(o) as grounds for this rejection. Applicant herein amends the claim to recite a “computer readable storage device” instead of “tangible, computer readable medium.” No new matter is added, since support is found in paragraph 0043 of the published application.

Claim 5 is objected to for depending upon canceled claim 3 and claim 33 is rejected for incorporating the deficiencies of claim 5. Applicant herein cancels claim 5.

Claim 33 stands objected to on grounds that the phrase “indicating size of the first required” is incoherent. For examination, the Office action has interpreted “first” as referring to “first resource.” Applicant agrees and herein amends claim 33 to state “indicating size of the first required resource.”

Rejections under 35 U.S.C. 101

Claims 1-2, 5-7 and 33-43 stand rejected under 35 U.S.C. 101. Applicant gratefully acknowledges the guidance from the Examiner for overcoming the rejection under 35 U.S.C. 101. Applicant also acknowledges the effort of Examiner to expedite a complete examination of the instant application, according to which the Examiner further considered the claims with respect to prior art, and provided prior art based rejections arising from that consideration. Applicant herein amends the claims to overcome the rejection.

With regard to claims 1-2, 5-7 and 33-43, the claims stand rejected under 35 U.S.C. 101 on grounds that the claim fails to produce a useful, concrete and tangible result. Specifically, the Office action asserts that the claimed subject matter does not produce a tangible result when the comparison of a retrieved hash and a stored hash results in no match. Claim 36 stands rejected under 35 U.S.C. 101 on further grounds that it recites nonfunctional descriptive material. Claim 36 also stands thus rejected on further grounds that the claimed invention is directed to the non-statutory subject area of electro-magnetic signals, carrier waves.

Claims 2, 5, and 33 stand rejected for incorporating the deficiencies of independent claim 1. Also, independent claims 6, 36, and 40 recite similar indefinite language and stand rejected under the same rationale as claim 1, while claims 34-35, 37-39, and 41-43 stand rejected for incorporating the deficiencies of their respective independent claims.

Applicant respectfully disagrees with the logic of the rejection of claims 1, 6, 36 and 40 in which it is stated that no tangible result is produced. The claim clearly states a result wherein a resource is retrieved in a particular circumstance. The Office action propounds a circumstance in which the claims state no tangible result, i.e., when comparison of a retrieved hash and a stored hash results in no match. It should be understood that the requirement for a tangible result is merely for a tangible result *in some defined circumstance*, not for all circumstances. Applicant is unaware of any authority that requires a tangible result in all circumstances. Such a requirement would be tantamount to a blanket prohibition of patentability, since some circumstance may always be imagined in which a tangible result is not produced. For example, no tangible result is produced by a computer system when the system is turned off. No tangible result is produced by a web browser when there is no user browsing.

In spite of Applicant's above explained disagreement about the logic of the stated basis of the rejection, Applicant nevertheless wishes to be fully cooperative. Applicant, upon reflection, recognizes that the claimed "initiating retrieval" of a resource might be considered a result that is unduly abstract or intangible, not because it fails to occur in every possible circumstance, but because it is not a result stated explicitly in terms of its tangible and concrete use to a person or group of people. The present application certainly does state a context that quite explicitly relates to concrete, tangible and useful results for a person or group of people. See present published application, paragraph 0005 ("It is common for several people within the same department of an

organisation to download the same data . . ."); paragraph 0063 ("In a first example, a user-initiated operation on a client data processing system within a LAN requires access to a resource on a remote system. The user wants access to the content of a Web site--such as to download a video file or a computer program. The user interacts with a Web browser running on the client system using conventional techniques to request 400 a copy of the resource from the remote system . . ."); paragraph 0093 ("The recipient may be given a visual indication of the transfer . . .").

Accordingly, Applicant herein amends claims 1, 6, 36, and 40 to recite "presenting an indication of the retrieval to a user," in order to more certainly state the claims in terms of a useful, concrete and tangible result. No new matter is presented by this amendment, since the original specification provides support, as explained immediately above. Applicant submits that this amendment addresses the rejection of claims 1-2, 5-7 and 33-43 on the basis of intangible use.

Claim 36 stands further rejected under 35 U.S.C. 101 on grounds the claim recites merely nonfunctional descriptive material. The Office action explains its position regarding "nonfunctional descriptive material," which includes a compilation or mere arrangement of data. The Office action cites authority for the proposition that merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. In particular, the Office action cites Diehr, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in Benson were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was its connection with the programming of a general purpose computer."); and In re Johnson, 589 F.2d 1070, 1077,200 USPQ 199,206 (CCPA 1978) ("form of the claim is often an exercise in drafting"). The Office action observes, on the other hand, that data structures and computer programs that do impart functionality when employed as a computer component are "functional descriptive material." (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).)

Applicant submits that the rejection of claim 36 on the basis of nonfunctional descriptive material is overcome in the amendment discussed herein above, wherein the amended claim recites "presenting an indication of the retrieval to a user," since the amended claim is no longer drawn to a mere abstract idea stored in a computer-readable medium.

Claim 36 stands further rejected under 35 U.S.C. 101 on grounds the claim encompasses mere “electro-magnetic signals.” That is, the Office action points out that the claim recites “a computer program product, stored on a tangible, computer readable medium” and that according to page 11, lines 25-30, of applicant’s specification, “The computer readable medium is taken herein to include any transmission medium for communicating the computer program between a source and a destination. The transmission medium may include storage devices such as magnetic or optical disks, memory chips, or other storage devices suitable for interfacing with a general-purpose computer. The transmission medium may also include a hard-wired medium such as exemplified by typical Internet connected server computers, or a wireless medium such as exemplified in the GSM mobile telephone system.”

Applicant submits that the rejection is overcome in the amendment discussed herein above to claim 36 to recite a “computer readable storage device” instead of “tangible, computer readable medium.”

Prior art rejections

Claims 1-2, 5-7, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. PGPUB 200110042171 (Vermeulen) in view of U.S. Patent 6,742,023 (Fanning). Claims 36-43 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Vermeulen in view of U.S. PGPUB 200510090283 (Rodriquez). To overcome the rejection Applicant herein amends claims 1, 6, 36 and 40 and cancels claims 5, 8, 38 and 42.

Claims 5, 8, 38 and 42

With regard to previously submitted claim 5, the Office action observes that the following was known in the prior art at the time of the present invention:

... a parallel download module 1002, as shown in FIG. 8, facilitates the rapid download of files by simultaneously downloading different sections of the same file from at least two file transfer servers 1004, 1006. The parallel download module 1002 selects the best of at least two file transfer servers 1104, 1106 from among all the file transfer servers associated with the file descriptions in the search response. Then, the user's file transfer client 1000 is instructed to download different sections of the same file from each of the file transfer servers 1004, 1006. This allows a user's distribution application with a high bandwidth connection to utilize several lower-bandwidth servers to maximize the transfer rate. It also distributes the file transfer load

across several different file transfer servers 1004, 1006. Note that for this to function properly, both file transfer servers 1004, 100 must have the identical file. In one embodiment, file identically is assumed if the file descriptions (including the file size) are the same. Other methods of detecting file identically may be used here, and such methods are well known in the art.

Fanning, column 12, lines 53-67-Column 13, lines 1-5. The Office action asserts that this teaches “the step of initiating retrieval of the required first resource from said at least one data processing system comprises: initiating retrieval of the bit sequence of said resource in a reverse order relative to the retrieval of said resource via the bandwidth-sensitive connection” as claimed. Applicant respectfully disagrees.

Applicant submits that retrieving of a file in parallel sections does not teach or suggest retrieving *“the bit sequence of said resource in a reverse order* relative to the retrieval of said resource via the bandwidth-sensitive connection” (emphasis added) as claimed. Applicant herein amends claim 1 to incorporate all the elements, steps and limitations of claim 5, and amends claim 6 to incorporate all the elements, steps and limitations of claim 8. Applicant submits that the amended claims are, therefore, allowable over the art of record.

With regard to previously submitted claims 36-43, the Office action observes that the following was known in the prior art at the time of the present invention:

Wireless network access device further comprises at least one local network interface, and in the disclosed embodiment comprises multiple local network interfaces 170, 172. In an exemplary embodiment, wireless network access device 130 operates one or more local communication networks, such as a local area network (LAN). Local network interface 170 may be embodied as a wireless PCMCIA card that provides access to a wireless data network using one of a plurality of wireless networking protocols, e.g., Bluetooth, or 802.11(b). Local network interface 172 may be embodied as a PCMCIA card that provides access to a wired network, e.g., a LAN. Software for operating the local communication network may reside on the PCMCIA cards, or as one of the application programs 160 that execute on the processing unit 132 of wireless network access device 130.

Rodriguez, paragraph 26.

The Office action also observes that the following was known in the prior art at the time of the present invention:

In an exemplary embodiment, wireless access device 130 is configured to maximize the available bandwidth to users. Accordingly, wireless access device 130 activates all available wireless

network interfaces to establish a plurality of wireless communication connections that may be spread among different communication service providers. At operation 320, wireless network access device 130 transmits the request for the resource from the activated communication interface(s). If a plurality-of interfaces were activated, then the resource request may be divided among the plurality of interfaces. For example, if a requested web page includes five objects, each of which requires a separate TCP connection, and there are five available communication interfaces, then each available wireless network interface may be assigned to transmit on a TCP connection.

Rodriguez, paragraphs 31-32.

The Office action also observes that the following was known in the prior art at the time of the present invention:

Operations 616-618 avoid downloading very large objects over a single TCP connection, which is transmitted across a single wireless network interface. Each wireless network interface has limited bandwidth. Therefore, downloading very large objects over a single TCP connection may unnecessarily delay the overall download time. Accordingly, the threshold may be set at a fixed number that is a function of the bandwidth available on a particular wireless network interface. Alternatively, the threshold may be set as a function of the size of a particular object in relation to the size of the other objects in the resource. For example, assume a particular resource includes five objects, one of which is a series of images that is ten times the size of the next largest object. The scheduler may break the series of images down into a number of individual objects that may be transmitted over separate TCP connections. Setting the threshold in this manner should reduce the total transmission time for the resource. It is possible to determine the threshold based on other factors; the thresholds described herein are merely exemplary.

Based on the number of objects in the resource and whether one or more objects were subdivided in operation 616, the parallel scheduler module determines a number of TCP connections to use in downloading the resource, at operation 620. For example, assume a resource includes five objects, but one object is subdivided into three separate TCP connections. The parallel scheduler module would assign seven TCP connections to download this resource.

Rodriguez, paragraphs 49-50. (Applicant considers all of the above teaching of Rodriguez also with regard to claims 1-2, 5-7, and 33-35.)

The Office action asserts that among the above passages Rodriguez teaches “the step of initiating retrieval of the required first resource from said at least one data processing system comprises: initiating retrieval of the bit sequence of said required first resource from the LAN in a reverse order relative to the retrieval of said resource from the remote network” and “wherein the instructions when executed by the computer, cause the computer to implement the method

such that the method further comprises the steps of: combining a portion of the bit sequence of said required first resource received from the LAN and a portion of the bit sequence of said required first resource from the remote network to build the bit sequence of said required first resource,” as claimed. Applicant respectfully disagrees.

Applicant submits that retrieving objects of a web page in parallel, as taught by Rodriguez, does not teach or suggest retrieving “*the bit sequence of said resource in a reverse order* relative to the retrieval of said resource via the bandwidth-sensitive connection” (emphasis added) as recited in claims 38 and 42. Applicant herein amends claim 36 to incorporate all the elements, steps or limitations of claim 38, and claim 40 to incorporate all the elements, steps or limitations of claim 42. Applicant submits that amended claims 36 and 40 are, therefore, allowable over the art of record.

Claims 33, 39 and 43

With regard to present claim 33, the Office action asserts that the above recited passage of Fanning, column 12, lines 53-67-Column 13, lines 1-5 also teaches “retrieving information indication size of the first required” and “completing the combining responsive to a total number of bits retrieved reaching the indicated size of the first required resource” as claimed. Applicant respectfully disagrees.

Fanning observes in the cited passage that for the method taught by Fanning to function properly, “both file transfer servers 1004, 100 must have the identical file. In one embodiment, [identical files are] assumed if the file descriptions (including the file size) are the same. It does not teach or suggest “completing the combining responsive to a total number of bits retrieved reaching the indicated size of the first required resource” as claimed, to do what Fanning teaches, i.e., to include file size as a factor in a search for two identical files on two file servers.

With regard to present claim 39, the Office action also observes that the following was known in the prior art at the time of the present invention:

In another exemplary implementation, an apparatus is provided. The apparatus comprises at least one local communication network interface for receiving a request for a resource. In addition, the apparatus comprises a plurality of wireless network interfaces for transmitting resource requests over wireless communication connections. The apparatus further comprises a memory module,

and a processor that executes logic instructions that configure the processor to terminate the received request, determine a number of available wireless network interfaces, determine a number of objects in the resource and the size of each object, and assign each object to at least one available wireless network interface.

Rodriguez, paragraph 7. (Applicant considers this teaching also with regard to claims 33 and 43.) The Office action asserts that this teaches “retrieving information indication size of the first required resource,” as claimed. The Office action also asserts that the passage of Rodriguez, paragraphs 49-50 (recited herein above) also teaches “completing the combining responsive to a total number of bits retrieved reaching the indicated size of the first required resource,” as claimed. Applicant respectfully disagrees.

Regarding size of resources to be retrieved, Rodriguez teaches about using size for setting a threshold for *deciding whether* to download resources via parallel connections. In particular Rodriguez teaches that “downloading very large objects over a single TCP connection may unnecessarily delay the overall download time. Accordingly, the threshold may be set at a fixed number that is a function of the bandwidth available on a particular wireless network interface. Alternatively, the threshold may be set as a function of the size of a particular object in relation to the size of the other objects in the resource. For example, assume a particular resource includes five objects, one of which is a series of images that is ten times the size of the next largest object. The scheduler may break the series of images down into a number of individual objects that may be transmitted over separate TCP connections. Setting the threshold in this manner should reduce the total transmission time for the resource.” This does not teach or suggest *how to complete* downloading of resources when the downloading is done via parallel connections, i.e., “completing the combining responsive to a total number of bits retrieved reaching the indicated size of the first required resource,” as recited in claims 39 and 43.

REQUESTED ACTION

Applicant submits that the the claims as submitted herein are patentably distinct, and hereby requests that Examiner grant allowance and prompt passage of the application to issuance.

Respectfully submitted,



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